

AN INTERLEAVED VCO WITH BODY VOLTAGE FREQUENCY RANGE
CONTROL

ABSTRACT OF THE DISCLOSURE

5 An interleaved VCO is configured using a ring oscillator with voltage
controlled feedforward inverting stages coupled around the inverting stages making
up the basic ring oscillator to enable the frequency of the ring oscillator to be voltage
controlled. The feedforward inverting stages comprise a complementary inverter
stage and a voltage controlled transfer gate. Complementary control voltages are
coupled to the gates of the complementary transfer gate FET devices. Likewise, the
10 complementary control voltages are coupled to the corresponding body of the FET
devices in the transfer gate and in the inverting stage. The complementary control
voltages may also be connected to the body of the complementary FET devices in the
inverting stages making up the basic ring oscillator. This allows the frequency range
of the VCO to be extended without having to switch the feedforward paths into an out
15 of the circuit.